

**METHOD FOR H₂ RECYCLING IN
SEMICONDUCTOR PROCESSING SYSTEM**

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5

ABSTRACT OF THE DISCLOSURE

A system and method for conserving and/or recycling hydrogen used in processing operations. The present invention can be used with any conventional reactor, which supports semiconductor processes using hydrogen. Hydrogen is pumped into the reactor from a hydrogen gas supply chamber. The hydrogen is used in the reactor as needed to perform the process function. The hydrogen accompanied with other process gases is exhausted from the reactor. The exhausted gases are routed through a scrubber, which is used to separate the hydrogen from the other gases. The other gases are allowed to vent from the system in a typical manner. The hydrogen is then pumped through an H₂ purifier, which cleans the hydrogen gas making the gas once again useable in the semiconductor process.